

Additions to the Recent Molluscan Fauna of New Zealand.

By A. W. B. POWELL, Assistant Director.

Genus HALIOTIS Linnaeus 1758.

Type: *Haliotis asinina* Linn.

Haliotis virginea morioria n. subsp. Pl. 40, figs. 1 and 2.

Having now got together a large and representative series of "virginea" from nine localities, it becomes necessary to propose another subspecies for the Chatham Island form, thus making three subspecies, including the typical mainland one.

These subspecies may be briefly diagnosed as follows:—

(1) ***H. virginea*** Gmelin 1790.

Finely radially lirate (5-6 per 5 mm.). Transverse folds obsolete, or confined to spire.

Localities: North and South Islands and Stewart Island.

(2) ***H. virginea huttoni*** Filhol 1880.

Coarsely radially lirate (3-4 per 5 mm.). Transverse folds subobsolete as in the typical species. Shell not so elongate.

Localities: Subantarctic Islands of New Zealand; Campbell Island (Type); Auckland Islands (Capt. J. Bollons).

(3) ***H. virginea morioria*** n. subsp.

Finely radially lirate (5-6 per 5 mm.). Transverse folds strongly developed over the whole shell. Shell broadly ovate, as in subspecies *huttoni*.

Locality: Chatham Islands; Owenga (type) and Kaingaroa.

The new subspecies thus resembles the typical species in its spiral sculpture, has the outlines of subspecies *huttoni*, and differs from both of these by the addition of strong transverse folds which gives it a superficial resemblance to *australis* Gmelin. Colouring as in typical species.

Dimensions:

virginea morioria—

Length, 66.5 mm.; breadth, 47 mm.; convexity, 23 mm. (holotype).

Length, 50 mm.; breadth, 34 mm.; convexity, 17 mm. (paratype).

Length, 43 mm.; breadth, 30 mm.; convexity, 13 mm. (paratype).

virginica huttoni—

Length, 60 mm.; breadth, 46 mm.; convexity, 21 mm. Auckland Island.

Length, 56.5 mm.; breadth, 41 mm.; convexity, 20 mm. Auckland Island.

Length, 49.5 mm.; breadth, 34.5 mm.; convexity, 17 mm. Auckland Island.

virginica virginica—

Length, 75 mm.; breadth, 49 mm.; convexity, 23 mm. Stewart Island.

Length, 67.5 mm.; breadth, 45 mm.; convexity, 22 mm. Wellington.

Length, 50 mm.; breadth, 32.5 mm.; convexity, 16 mm. North Otago.

Length, 42.5 mm.; breadth, 28.5 mm.; convexity, 12 mm. South Westland.

Locality: Owenga, Chatham Islands.

Holotype and *paratypes:* in Auckland Museum.

TONNA Brunnich 1771.

Type: *Buccinum galca* Linn.

Tonna maoria n. sp. Pl. 40, figs. 5 and 6.

Shell rather small for the genus, globose, moderately strong. Spire about one-third height of aperture. Whorls $4\frac{1}{2}$, plus a small reddish-brown protoconch (apex missing in only available specimen). Sculptured with broad, flat, spiral cords, having linear interspaces; six cords on penultimate and twenty on the body-whorl. The cords on the spire whorls, and the corresponding first six down from the suture on the body-whorl, each have an interstitial thread. Fasciole marked off by a thin raised edge, and sculptured with four subobsolete spirals, which show only as different planes when the shell is rotated. The sinus is narrowed and deepest near the upper edge of the fasciole. Outer lip thin. Columella vertical, strongly twisted, and bearing a thin white callus plate which bridges the deep, narrow, spiral umbilicus.

General ground colour buffy-brown (Pl. 40, 17, i) to wood-brown (Pl. 40, 17 -); rib interstices deepening to snuff-brown (Pl. 29, 15 k). The pattern consists of rectangular buff patches arranged irregularly on certain of the spiral cords. Each buff patch is immediately followed by a smear of snuff-brown. (Colour terms from Ridgway, 1912, "Color Standards and Color Nomenclature.") The pattern is disposed on cords 1-3, 5, 8, 11, 13, 14,

17, and the fasciole, and becomes obsolete over the last half of the body-whorl. Interior of aperture snuff-brown, fading to greyish-white towards the outer lip.

Height, 60 mm.; diameter, 50 mm.

Locality: Houhora Heads, North Auckland.

Holotype: In writer's collection (Auckland Museum).

It seems allied to such species as Reeve's *Dolium cumingii* (Conch. Icon. 5, 1849, pl. 8, f. 13b and c) and *D. deshayesii* (l.c. f. 13a), both from the Philippines. The former is recorded by Hedley (Rec. Aust. Mus. 1919, Vol. 12, p. 330) from Queensland and New South Wales localities. From both *cumingii* and *deshayesii* the New Zealand shell differs in having fewer and stronger cords, as well as in the colour pattern.

Three species of *Tonna* are now known from New Zealand waters:—

Tonna haurakiensis Hedley 1919, Rec. Aust. Mus., Vol. 12, p. 331.

Tonna tetracotula Hedley 1919 (l.c. p. 332) Powell 1927, Trans. N.Z. Inst., Vol. 57, p. 559.

Tonna maoria n. sp.

Genus **AUSTROSIPHO** Cossmann 1906.

Type (orig. desig.): *Fusus roblini* Ten.-Woods.

Subgenus **VERCONELLA** Iredale 1914.

Type (orig. desig.): *Fusus dilatatus* Q. & G.

Austrosipho (Verconella) chathamensis n. sp. Pl. 40, fig. 7.

Shell large, nearest to *ormesi* Powell 1927 (Trans. N.Z. Inst., Vol. 57, p. 555) from off Cape Campbell, Marlborough, in 50-60 fathoms. Whorls (post-nuclear) seven, protoconch missing. Spire seven-eighths height of aperture, plus canal. Outline of whorls strongly convex, slightly angled at a little above the middle in spire whorls; body-whorl free from angulation. Sculpture consisting of low, moderately broad spiral ridges, regularly alternating with a thread in each interspace except on the shoulder, where the interstitial threads are absent. On the spire whorls the broader ridges number eleven (with interstitial threads) and nine on the shoulder. There are about thirty-eight of the broader spirals on the body-whorl, including canal. The axial sculpture is in the form of fold-like vertical ridges, thirteen on the antepenultimate, becoming obsolete over the penultimate, and absent from the body-whorl.

The species resembles *ormesi* in general features, but differs notably in the much coarser sculpture and in the well developed axials on the upper spire whorls. Colour dull white.

Height, 180 mm.; diameter, 71 mm.

Locality: Kaingaroa, Chatham Islands. Mr. A. Wotherspoon.

Holotype: In Auckland Museum.

Genus PHILIPPIA Gray 1847.

Type: *Solarium luteum* Lamarck.

Philippia manifesta Iredale 1931. Rec. Aust. Mus., Vol. 18, p. 229, Pl. 25, figs. 9, 10 (not "19, 20") New South Wales.

A number of specimens of this species were found, along with *P. lutea* and *Architectonica recevi*, in shell-sand from Takou Bay, near Whangaroa, collected by Mr. C. H. Robinson, 1936. Mr. Robinson also found near the same locality six specimens of *Hydatina physis*, a species which I recorded from New Zealand for the first time in 1924 (N.Z. Journ. Sci. & Tech., Vol. 6, p. 284), the record being based upon a living specimen taken at Tryphena Bay, Great Barrier Island. A single specimen of the following widely distributed Pacific species was also taken at Takou Bay, by Mr. Robinson, who presented the specimen to the Auckland Museum.

Genus MAMMILLA Schumacher 1817.

Type: *Albula mammata* Bolten.

Mammilla mammata (Bolten 1781).

1937 *Mammilla mammata*: Powell, "Shellfish of N.Z." Unity Press Ltd., Auckland, p. 73, No. 771.

For the convenience of those who are using my check-list of the New Zealand Recent Mollusca ("Shellfish of New Zealand," 1937, Unity Press, Auckland, pp. 54-99) the following additions to date are:—

Striacallista Marwick 1938 (p. 68). (Type: *Cytherea multistriata* Sowb.) (subgenus of *Notocallista*).

236—*Notocallista* (*Striacallista*) *multistriata* (Sowerby 1851).

304.1—*Haliotis virginea morioria* Powell 1938 (n.sp. herein) M. (delete "M" from sp. 303.)

813.1—*Tonna maoria* Powell 1938 (n. sp. herein) A.

833.1—*Philippia manifesta* Iredale 1931 (Powell, herein) A.

Puposyrnola Cossmann 1921 (Type: *Auricula acicula* Lamk.).

848—*F. fastigiata* (Suter 1906) C.*

848.1—*P. missile* Laws 1937 (p. 308) A.C.*

Finlayola Laws 1937 (p. 311) (Type: *F. finlayi* Laws 1937).

861—*F. lurida* (Suter 1908) (*Syrnola*) C.*

874.1—*Chemnitzia zealandica axivarians* Laws 1937 (p. 61).

880.1—*Chemnitzia errabunda* Laws 1937 (p. 53) C.F.

880.2—*Chemnitzia dunedinensis* Laws 1937 (p. 54) F.

880.3—*Chemnitzia kingi* Laws 1937 (p. 54) C.

- 880.4—*Chemnitzia verecunda* Laws 1937 (p. 55) C.
 880.5—*Chemnitzia forsteriana* Laws 1937 (p. 56) F.*
 880.6—*Chemnitzia bucknilli* Laws 1937 (p. 56) C.
 880.7—*Chemnitzia jactura* Laws 1937 (p. 57) F.*
 880.8—*Chemnitzia waitemata* Laws 1937 (p. 58) C.
 880.9—*Chemnitzia cookiana* Laws 1937 (p. 59) C.
 880.10—*Chemnitzia stipes* Laws 1937 (p. 59) A.*
 880.11—*Chemnitzia vegrandis* Laws 1937 (p. 59) F.
 880.12—*Chemnitzia owenga* Laws 1937 (p. 61) M.*
 880.13—*Chemnitzia barrierensis* Laws 1937 (p. 61) C.
 880.14—*Chemnitzia vigilia* Laws 1937 (p. 63) C.
 880.15—*Chemnitzia scala* Laws 1937 (p. 65) F.*
 880.16—*Chemnitzia lillingtoniana* Laws 1937 (p. 65) F.R.*
 880.17—*Chemnitzia mitis* Laws 1937 (p. 65) C.M.*
 880.18—*Chemnitzia rakiura* Laws 1937 (p. 66) F.*
 880.19—*Chemnitzia informis* Laws 1937 (p. 67) C.
 880.20—*Chemnitzia acer* Laws 1937 (p. 68) F.*

Strioturbonilla Sacco 1892 (*S. sigmoidea* Jeffreys).
 880.21—*S. taiaroa* Laws 1937 (p. 170) F.*

Pyrgiscilla Laws 1937 (p. 172). (Type: *T. (S.) chattonensis* M.)
 880.22—*P. otakaucica* Laws 1937 (p. 175) F.

Striarcana Laws 1937 (p. 179). (Type: *S. cryptolira* Laws.)
 880.23—*S. cryptolira* Laws 1937 (p. 180) A.C.M.
 880.24—*S. tauranga* Laws 1937 (p. 180) C.

Terelimella Laws 1938 (p. 58). (Type: *T. ototarana* Laws 1938.)
 866—*T. larochei* (Powell 1930) (*Eulimella*).
 867—*T. aupouria* (Powell 1937) (*Eulimella*).

960.1—*Austrosipho* (*Verconella*) *chathamensis* Powell 1938 (n. sp. herein) M.

973.1—*Austrofuscus glans tragulatus* Iredale 1937 (p. 107) F.*

Leporemax Iredale 1937 (subgenus of *Alcithoe*). Type: *Voluta gracilis* Swainson (= *Carolluta* Iredale 1937. Type: *Fulguraria hedleyi* (Murdoch & Suter).

1088—*Alcithoe* (*Leporemax*) *gracilis* (Swainson 1821).

1089—*Alcithoe* (*Leporemax*) *hedleyi* (Murdoch & Suter 1906).

1086.1—*Alcithoe ostenfeldi* (Iredale 1937) (p. 105) F.*
 (*Gilvostia* n. gen. Ired. 1937‡).

1239—*Sphaerostoma flemingi* Powell 1937 (p. 120) C.

1276—*Hermaea aoteana* Powell 1937 (p. 123) C.

1277—*Elysia maoria* Powell 1937 (p. 121) C.

1358—Delete; duplicate of 1351.

1504—*Placostylus ambagiosus* Suter 1906.

1504.1—*Placostylus ambagiosus annectens* Powell 1938 n. subsp.

1504.2—*Placostylus ambagiosus consobrinus* Powell 1938 n. subsp.

1504.3—*Placostylus ambagiosus priscus* Powell 1938 n. subsp.

ELASMATINIDAE.

Tornatellinops Pilsbry 1915. (Type: *Tornatellina novoseelandica* Pfeiffer 1853.)

1505—*Tornatellinops novoseelandica* (Pfeiffer 1853) (Iredale 1937, p. 300).

1520.1—*Paryphanta hochstetteri anatokiensis* Powell 1938 (n. subsp.)

1525.1—*Paryphanta lignaria oconnori* Powell 1938 (n. subsp.).

1529.1—*Paryphanta unicolorata rotella* Powell 1938 (n. subsp.).

- 1529.2—*Paryphanta gagei* Powell 1938 n. sp.
 1529.3—*Paryphanta fletcheri* Powell 1938 n. sp.
 1532.1—*Paryphanta gilliesi brunnea* Powell 1938 n. subsp.
 1539.1—*Paryphanta traversi tararuaensis* Powell 1938 n. subsp.

1543.1—*Schizoglossa major* Powell 1938 n. sp.

NOTE.—The numbers preceding a name refer to the numerical sequence of species in the 1937 check-list: the addition of a decimal indicates an addition to the fauna.

REFERENCES.

- Iredale, T., 1937. A Basic List of the Land Mollusca of Australia. Austr. Zool. vol. 8, pt. 4, pp. 287-333.
 Iredale, T., 1937. Notes on Neozelanic Deepwater Marine Mollusca. Rec. Austr. Mus., Vol. 20, No. 2, pp. 103-107.
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 Powell, A. W. B., 1938. Additions to the Recent Molluscan Fauna of New Zealand. Rec. Auck. Inst. Mus., Vol. 2, No. 3.

‡*Gilvostia* Iredale 1937 (p. 105) was proposed for this large thin-shelled, deep water volute, resembling *calva* Powell 1928, but more inflated. Iredale mentions that the columellar folds are constantly four. The pillar lacks the callus plate so characteristic of shallow-water species. Examination of a large series of topotypes kindly supplied by Messrs. Scandretts Ltd., of Westport, reveals that the columellar folds are not constantly four; 29% have a well developed fifth fold. These folds are certainly heavier than in *calva*, but on the other hand they resemble those of *larochei*, which may be considered a smaller and more robust relative of Iredale's species. *Gilvostia* cannot be used even subgenerically, for these deeper water shells, of lighter build than shallow water forms and characterised by the undeveloped callus plate on the pillar, owing to the fact that *jaculoides* Powell 1924 and *johnstoni* Powell 1928, both without callus plates, clearly belong, by their axial nodulation of the whorls, to the *arabica* series. The characters upon which *Gilvostia* is based are therefore, in the opinion of the writer, of ecological rather than of taxonomic significance. *Carolluta* Iredale (1937) (p. 105) (type *Fulguraria hedleyi* Murdoch & Suter 1906) cannot, in the writer's opinion, be separated from *Leporemax* Iredale (l.c.) proposed for Swainson's *Voluta gracilis*. When the New Zealand Tertiary volutes are considered the separation of even the *Leporemax* series from *Alcithoe* becomes in many cases problematic.

Ranella ostenfeldi Iredale 1937 (p. 104) is considered synonymous with *Mayena multinodosa* Bucknill 1927, the type of which was a half grown shell. Adult topotypes of Bucknill's species cannot be separated from Iredale's *ostenfeldi*, both of which exhibit the same sculptural features in mature examples.



Fig. 1. *Haliotis virginica morioria* n. subsp. (holotype).
 Fig. 2. *Haliotis virginica morioria* n. subsp. (paratype).
 Figs. 3 and 4. *Haliotis virginica* Gmelin 1790. Lyall Bay, Wellington.
 Figs. 5 and 6. *Tonna maoria* n. sp.
 Fig. 7. *Austrosipho (Verconella) chathamensis* n. sp.